

Conference paper

Metadata Management Implementation in a Large Federal Organization.

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Summary

The Department of Interior (DOI) is a Federal agency with over 90,000 employees across 10 Bureaus and 8 Agency Offices. Its primary mission is to protect and manage the Nation's natural resources and cultural heritage; provide scientific and other information about those resources; and honor its trust responsibilities or special commitments to American Indians, Alaska Natives, and affiliated island communities.

Documenting data through metadata is essential in realizing the value of data as an enterprise asset. The completeness, consistency, and currentness of metadata affects users' ability to search for and discover the most relevant data for the intended purpose, and facilitates the interoperability and usability of these data among DOI bureaus and offices. Fully documented metadata describe and enhance data usability, quality, accuracy, provenance, and meaning.

The Department has organized a committee consisting of Bureau-level points-of-contacts to collaborate on the development of more consistent, standardized, and effective metadata management practices and guidance to support this shared mission and the information needs of the Department.

DOI's metadata implementation guide establishes key roles and responsibilities associated with metadata management processes, procedures, and a series of actions defined in three major metadata implementation phases including: 1) Getting started – Planning Phase, 2) Implementing and Maintaining Operational Metadata Management Phase, and 3) the Next Steps towards Improving Metadata Management Phase. DOI's phased approach for metadata management addresses some of the major data and metadata management challenges that exist across the diverse missions of the bureaus and offices (Blythe 2015).

Abstract

The Department of Interior (DOI) is a Federal agency with over 90,000 employees across 10 Bureaus and 8 Agency Offices. Its primary mission is to protect and manage the Nation's natural resources and cultural heritage; provide scientific and other information about those resources; and honor its trust responsibilities or special commitments to American Indians, Alaska Natives, and affiliated island communities. Data and information are critical in day-to-day operational decision making and scientific research. DOI is committed to creating, documenting, managing, and sharing high-quality data and metadata in and across its various programs that support its mission. Documenting data through metadata is essential in realizing the value of data as an enterprise asset. The completeness, consistency, and currentness of metadata affects users' ability to search for and discover the most relevant data for the intended purpose, and facilitates the interoperability and usability of these data among DOI bureaus and offices. Fully documented metadata describe and enhance data usability, quality, accuracy, provenance, and meaning.

Across DOI, there are different maturity levels and phases of information and metadata management implementations. The Department has organized a committee consisting of Bureau-level points-of-contacts to collaborate on the development of more consistent, standardized, and effective metadata management practices and guidance to support this shared mission and the information needs of the Department. DOI's metadata implementation guide establishes key roles and responsibilities associated with metadata management processes, procedures, and a series of actions defined in three major metadata implementation phases including: 1) Getting started – Planning Phase, 2) Implementing and Maintaining Operational Metadata Management Phase, and 3) the Next Steps towards Improving Metadata Management Phase. DOI's phased approach for metadata management addresses some of the major data and metadata management challenges that exist across the diverse missions of the bureaus and offices⁷. All employees who create, modify, or use data are involved with data and metadata management. Identifying, establishing, and formalizing the roles and responsibilities associated with metadata management are key to institutionalizing a framework of best practices, methodologies, processes, and common approaches throughout all levels of the organization; the foundation for effective data resource management. For executives and managers, metadata management strengthens their overarching views of data assets, holdings, and data interoperability; and clarifies how metadata management can help accelerate the compliance of multiple policy mandates. For employees, data stewards, and data professionals; formalized metadata management will help with the consistency of definitions, and approaches addressing data discoverability, data quality, and data lineage. In addition to data professionals and others associated with information technology, data stewards and program subject matter experts (SMEs) take on very important metadata management roles and responsibilities as data flows through their respective business and science-related workflows. The responsibilities of establishing, practicing, and governing the actions associated with their specific metadata management roles are critical to successful metadata implementation.

This presentation will discuss the roles and responsibilities of various actions that are important to DOI's approach for metadata implementation across these three implementation phases.

Acknowledgements

The Author¹ would like to thank the following co-authors for their contributions to completing this talk abstract. Their diverse backgrounds and contributions to the Metadata Implementation Guide (MIG) help make metadata guidance as far reaching as possible in a large federal organization.

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Competing Interests

The authors declare that they have no competing interests

Notes

The Data Administration and Management Association (DAMA) and the Capability Maturity Model Integration Institute (CMMI) are two independent organizations that publish current methodologies and best practices that are used throughout many data management communities.

References

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